

CLAIMS

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A headrest for a seat having a seatback capable of movement comprising:
5 a bun moveable between an extended position and a stowed position; and
an actuator for pivoting the bun between the extended position and the stowed
position in response to movement of the seatback.
2. The headrest of claim 1 where the seatback is moveable from an upright position
to a folded position, and the bun is in the extended position when the seatback is in the upright
10 position and the bun is in the stowed position when the seatback is in the folded position.
3. The headrest of claim 2 where the bun rotates at least seventy degrees from the
upright position to the stowed position.
4. The headrest of claim 2 where the bun rotates at least one hundred degrees from
the upright position to the stowed position.
- 15 5. The headrest of claim 2 where the bun is pivotal about an axis, and a clutch
prevents pivoting of the bun from the extended position.
6. The headrest of claim 5 where a cable is attached to the clutch, and a force
exerted on the cable causes the clutch to allow pivoting of the bun.
7. The headrest of claim 6 where a lock is juxtaposed with the clutch, the clutch
20 prevents pivoting of the bun by engaging the lock.
8. The headrest of claim 7 where the clutch includes at least one cam.
9. The headrest of claim 8 where the bun is pivotal around a rotatable shaft.

10. The headrest of claim 9 where the clutch is circumferentially located about the rotatable shaft.
11. The headrest of claim 10 where the lock is juxtaposed with the clutch.
12. The headrest of claim 11 where the lock is at least partially circumferentially
5 located about the rotatable shaft.
13. The headrest of claim 12 including a spring, the spring biasing the clutch against the lock.
14. The headrest of claim 13 where the spring is at least partially located circumferentially about the rotatable shaft.
- 10 15. The headrest of claim 14 where the clutch has a latch.
16. The headrest of claim 15 where the latch connects the clutch with the lock.
17. The headrest of claim 16 where the lock includes a cross-member.
18. The headrest of claim 17 where the rotatable shaft includes at least one slot.
19. The headrest of claim 18 where the cross-member is slideably engaged with the
15 rotatable shaft.
20. The headrest of claim 19 where the spring is attached to the clutch.
21. The headrest of claim 20 where the clutch has a first cam.
22. The headrest of claim 21 where a pin extends from the rotatable shaft and rests with the first cam.
- 20 23. The headrest of claim 22 where the clutch is substantially cylindrical, the clutch has a clutch axis, and the first cam is positioned on the clutch at an angle with the clutch axis.
24. The headrest of claim 23 where the angle is more than about 30 degrees with the clutch axis.

25. The headrest of claim 24 where the angle is more than about 45 degrees with the clutch axis.
26. The headrest of claim 25 where the clutch has a second cam, and the second cam is positioned on the clutch at the angle.
- 5 27. The headrest of claim 23 where the pin is within the second cam.
28. The headrest of claim 27 where the spring is attached to the clutch.
29. The headrest of claim 28 where the rotatable shaft is attached to a rotation bracket.
30. The headrest of claim 29 where the bun is attached to the rotation bracket.
- 10 31. The headrest of claim 30 where the rotation bracket has at least one prong.
32. The headrest of claim 31 including a mounting bracket, the mounting bracket attachable to the seat.
33. The headrest of claim 32 where the rotation bracket is attached to the mounting bracket.
- 15 34. The headrest of claim 33 where the rotation bracket moves relative to the mounting bracket.
35. The headrest of claim 34 where the rotation bracket is contained within the mounting bracket.
36. The headrest of claim 35 where the rotation bracket includes a first mounting bracket hole and a second mounting bracket hole.
- 20 37. The headrest of claim 36 where the rotatable shaft is mounted in the first mounting bracket hole and the second mounting bracket hole.
38. The headrest of claim 37 where the spring is attached to the mounting bracket.

39. The headrest of claim 38 where the mounting bracket includes a stop, and the stop is positioned so as to prevent pivoting of the rotation bracket more than a predetermined number of degrees.

40. The headrest of claim 39 where pivoting of the rotation bracket in a first direction compresses the spring.

41. The headrest of claim 40 where the lock has a locked position such that the bun cannot move from the extended position when the lock is in the locked position and the lock has an unlocked position such that the bun can be moved from the extended position when the lock is in the unlocked position, and the spring when compressed tends to move the lock into a locked position.

42. A vehicle seat for a motor vehicle comprising:
a seat pan;
a seatback moveable between an upright position and a folded position;
a headrest rotatable between an extended position and a stowed position; and
an actuator for rotating the headrest from the extended position when the seatback is in the upright position to the stowed position when the seatback is in the folded position.

43. The vehicle seat of claim 42 where the actuator is a cable, and the cable is attached to the seat pan and to the headrest.

44. The vehicle seat of claim 43 where the cable will exert a force on the headrest as the seatback is moved from the upright position to the folded position.

45. The vehicle seat of claim 44 where the headrest is attached to the seat by a mounting bracket.

46. The vehicle seat of claim 45 where the headrest includes a rotation bracket, the rotation bracket being pivotally mounted to the mounting bracket.

47. The vehicle seat of claim 46 where the cable is attached to the rotation bracket, and the cable causes the rotation bracket to pivot as the seatback is moved from the upright
5 position to the folded position.

48. The vehicle seat of claim 47 where the cable has a fixed length.

49. The vehicle seat of claim 48 where the rotation bracket includes a rotatable shaft, and the rotation bracket pivots about the rotatable shaft.

50. The vehicle seat of claim 49 where the mounting bracket includes a first mounting
10 bracket hole and a second mounting bracket hole, and the rotatable shaft is rotatably mounted in the first mounting bracket hole and the second mounting bracket hole.

51. The vehicle seat of claim 50 where a lock is attached to the rotatable shaft, and the lock may be engaged with the mounting bracket, and, if the lock is engaged with the mounting bracket, then the rotatable shaft is disabled from rotating.

15 52. The vehicle seat of claim 51 including a clutch operably connected to the lock for controlling engagement of the lock with the mounting bracket.

53. The vehicle seat of claim 52 where the cable is connected to the clutch, and, if the cable applies a first force to the clutch, then the clutch disengages the lock from the mounting bracket.

20 54. The vehicle seat of claim 53 where the clutch is circumferentially located about the rotatable shaft, and the clutch can turn a first angular amount before the rotatable shaft turns.

55. The vehicle seat of claim 54 where the clutch, after it has turned a first angular amount, will engage with the rotatable shaft to cause the rotatable shaft to rotate.

56. The vehicle seat of claim 55 where a spring is circumferentially positioned about the rotatable shaft and attached to the clutch and to the mounting bracket, and where the spring pushes the clutch against the lock.

57. The vehicle seat of claim 56 where the clutch includes a latch, and the latch is
5 attached to the lock.

58. The vehicle seat of claim 57 where the headrest rotates at least about seventy degrees when the seatback is moved from the upright position to the folded position.

59. The vehicle seat of claim 58 where the headrest rotates at least seventy about one hundred degrees when the seatback is moved from the upright position to the folded position.

10 60. A headrest for a seat having a moveable seatback, the seat adapted to be attached to a motor vehicle, the moveable seatback having an upright position and a forward folded position, comprising:

a mounting bracket attachable to the seat;

a rotatable shaft disposed within the mounting bracket;

15 a rotation bracket fixedly attached to the rotatable shaft, and moveable between a first position and a second position; and

a cable attached such that movement of the moveable seatback from the upright position to the forward folded position causes the rotatable shaft to rotate, moving the rotation bracket from the first position to the second position.

20 61. The headrest of claim 60 including a spring disposed axially about the rotatable shaft.

62. The headrest of claim 61 where the spring has a first spring end and a second spring end, the first spring end attached to the mounting bracket and the second spring end attached to the rotatable shaft.

63. The headrest of claim 62 where a lock prevents movement of the rotatable shaft.

5 64. The headrest of claim 63 where the lock is disposed circumferentially about a portion of the rotatable shaft.

65. The headrest of claim 64 where the lock is engagable with the mounting bracket.

66. The headrest of claim 65 where a clutch is configured so as to control engagement of the lock with the mounting bracket.

10 67. The headrest of claim 65 where the lock has a button, and the mounting bracket has a button aperture, and the lock is engaged with the mounting bracket when the button is within the button aperture.

68. The headrest of claim 67 where a clutch is circumferentially disposed about the rotatable shaft and juxtaposed with the lock such that movement of the clutch causes the button
15 to ingress into the button aperture.

69. The headrest of claim 68 where movement of the clutch causes the button to egress the button aperture.

70. The headrest of claim 69 where a spring is configured to push the clutch against the lock.

20 71. The headrest of claim 70 where the spring is circumferentially disposed about the rotatable shaft.

72. The headrest of claim 71 where the spring has a first spring end, and the first spring end is attached to the mounting bracket.

73. The headrest of claim 72 where the spring has a second spring end, and the second spring end is attached to the clutch.

74. The headrest of claim 73 where the clutch has a lever arm, and the second spring end is attached to the lever arm.

5 75. The headrest of claim 74 where the rotatable shaft has a first rotatable shaft end, and a slot is axially disposed within the first rotatable shaft end.

76. The headrest of claim 75 where the lock has a cross-member and the cross-member is moveable within the slot.

10 77. The headrest of claim 76 where the cable has a first cable end and a second cable end, and the first cable end is attached to the clutch.

78. The headrest of claim 77 where the second cable end is attachable to the seat.

79. The headrest of claim 78 where the second cable end is attachable to the motor vehicle.

15 80. The headrest of claim 79 where the mounting bracket has a stop, and the stop prohibits movement of the rotation bracket after the rotation bracket reaches the second position.

81. The headrest of claim 80 where the first spring end is attached to the mounting bracket at the stop.

82. The headrest of claim 81 where the clutch has a cam and the rotatable shaft has a pin.

20 83. The headrest of claim 82 where the pin is moveably disposed within the cam.

84. The headrest of claim 83 where the pin is arranged so as to traverse the cam when the rotation bracket pivots.

85. The headrest of claim 84 where the pin is located proximal to the first rotatable shaft end.

86. A headrest for a seat having a moveable seatback comprising:
a bun, the bun pivotal between an extended position and a stowed position; and
5 pivoting means for pivoting the bun between the extended position and the stowed position in response to movement of the moveable seatback.

87. The headrest of claim 86 where the bun pivots only after the moveable seatback has moved a seatback distance.

88. The headrest of claim 87 where the moveable seatback rotates, and the bun is
10 pivotal only after the moveable seatback has rotated a seatback rotational angle.

89. The headrest of claim 88 where the seatback rotational angle is less than about 25 degrees.

90. The headrest of claim 88 where the seatback rotational angle is less than about 15 degrees.

15 91. The headrest of claim 90 where the moveable seatback has a full upright position and a fully folded position, and where the bun is in the extended position when the moveable seatback is in the full upright position and the bun is in the stowed position when the moveable seatback is in the fully folded position.

92. The headrest of claim 91 where the bun is in the stowed position if the moveable
20 seatback is neither in the fully folded position nor the full upright position.

93. The headrest of claim 91 where the bun is in the extended position if the moveable seatback is neither in the fully folded position nor the full upright position.

94. The headrest of claim 91 where the moveable seatback has a seatback arc as it moves from the full upright position to the fully folded position, and the bun is in the stowed position for at least a portion of the seatback arc.

95. The headrest of claim 91 where the bun is in the extended position for at least a
5 portion of the seatback arc.